

BRIEF DESCRIPTION OF THE DRAWINGS

[0009] Other advantages of the present invention will be readily appreciated as the same becomes better understood by reference to the following detailed description when considered in connection with the accompanying drawings
5 wherein:

[0010] Figure 1 is a perspective view of a vehicle incorporating a sensing device according to the subject invention;

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[0011] Figure 2A-2C ARE A schematic block diagram of the sensing device;

[0012] Figure 3a is a cross-sectional view of a glazing, illustrating the
10 piezoelectric sensor disposed between a first glazing pane and a second glazing pane;
and

[0013] Figure 3b is a cross-sectional view of the glazing, showing the sensing device attached to the glazing.

15 DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

[0014] Referring to the Figures, wherein like numerals indicate like or corresponding parts throughout the several views, a sensing device is generally shown at 10. The sensing device 10 of the subject invention includes the ability to determine a rain rate of rain striking a surface 26.

20 [0015] Referring to Figure 1, the vehicle 12 includes a vehicle glazing 14 and at least one wiper blade 16. Preferably, as disclosed in Figure 1, two wiper blades 16 are utilized. The wiper blades 16 move across the glazing 14 to remove raindrops from the glazing 14. Those skilled in the art appreciate that the glazing 14

of a vehicle may include, but is not limited to, a windshield, a back window, or a side window of a vehicle.

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[0016] Referring now to Figure 2A, at least one motor 18 is operatively connected to the wiper blades 16 for moving the wiper blades 16 across the glazing 14. Preferably, only one motor 18 is needed for the two wiper blades 16. At least one switch 20 is operatively connected to the motor 18 for activating the motor 18. Preferably, only one switch 20 is necessary for the one motor 18. However, it is to be understood, that the wiper blades 16, motor 18, and switch 20 can be configured differently without varying the scope of the subject invention.

10 [0017] A controller 22 is operatively connected to the switch 20. The controller 22 activates the switch 20, which in turn activates the motor 18, which then causes the wiper blades 16 to move across the glazing 14 and remove the raindrops from the glazing 14.

[0018] The sensing device includes a piezoelectric sensor 24.
15 Referring again to Figure 1, the piezoelectric sensor is mounted to a surface 26 of the vehicle 12. It is preferred that the piezoelectric sensor 24 is mounted to the glazing 14, therefore described below only in terms of the glazing 14 being the surface 26. However, it is to be understood that in alternative embodiments, the piezoelectric sensor 24 can be mounted to a roof 30, or hood 32 of the vehicle, etc. It is to be
20 understood that different vibration characteristics of the vehicle 12 occur at different locations on the vehicle 12. Hence, additional provisions, such as filtering or absorption, may be necessary depending on a mounting location for and properties of the piezoelectric sensor 24. It is preferred that the piezoelectric sensor 12 is mounted